

Claims

1. Water - turbine or – pump or – pump turbine comprising a runner (1.1) with a plurality of runner vanes as well as with a hub (1.3);
5 1.2 with a housing, comprising a guide device for adjusting the flow of water into the runner (1.1);
1.3 with a suction pipe (4) for guiding the water flowing out of the runner, the suction pipe (4) comprising an inlet portion; characterized by the following features:
10 1.4 in the suction pipe (4) there is provided an elongated displacement body (5);
1.5 the upstream end of the displacement body (5) is located in the vicinity of the hub (1.3) of runner (1)
15 2. Turbine or pump according to claim 1, characterized in that the distance between hub 1.3 of runner (1) and the upstream end (5.1) of displacement body 5 is between 0.5 and 50 mm.
20 3. Turbine or pump according to claims 1 or 2, characterized in that the displacement body (5) is supported at the suction pipe 4 by rods 6.1, 6.2, 6.3.
25 4. Pump or turbine according to either one of claims 1 to 3, characterized in that the displacement body (5) is supported at the hub (3) of runner (1).
5. Pump or turbine according to either one of claims 1 to 4, characterized in that the displacement body (5) and the hub (1.3) of runner (1) are made of one single piece and are rotating together.
30 6. Turbine or pump according to either one of claims 1 to 3, characterized in that the suction pipe (4) is straight.

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7. Pump or turbine according to either one of claims 1 to 5, characterized in that the suction pipe (4) is bowed.
8. Pump or turbine according to either one of claims 1 to 7, characterized in that the displacement body (5) tapers in the direction of flow.
9. Pump or turbine according to either one of claims 1 to 7, characterized in that the displacement body (5) tapers against the direction of flow.

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